

## **LIVESTOCK REARING PREFERENCE IN THE FRINGE VILLAGES OF KAZIRANGA NATIONAL PARK**

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### **ABSTRACT**

An investigation was undertaken to study the livestock rearing preferenceamid fringe villages in 4 selected forest range areas of Kaziranga National Park, namely Agoratoli range, Kohora range, Bagori range and Burapahar (Ghurakati range).It was found that the most preferred livestock reared by the villagers in the fringe villages was indigenous cattle followed by goat, pig, crossbred cattle and poultry. As regards to purpose of rearing livestock, it was found that cent per cent of the respondents agreed livestock rearing as an integral part of livelihood, whereas, majority of the respondents (76 per cent) reared livestock for economic purpose, 79% for draught purpose, 95% reared it traditionally while 45% often reared livestock for other purpose such as threshing, dung lapping etc. Furthermore on the basis of dependency on Kaziranga National Park forest territory for livestock rearing, it was observed that except Agoratoli-I Village rest of the 4 villages (Agoratoli-II, Kohora, Bagori and Burapahar) were lowly dependent on forest territory for their livestock rearing.

**KEYWORDS:** Pattern, Purpose, Dependency, Livestock, Kaziranga National Park and Fringe Villages

### **INTRODUCTION**

Assam, the gateway of North East India, is the land of enchanting aesthetic beauty with lush green hills, pastures, tea gardens, riverine plains and wilderness all round. The state is famous for its tea gardens and one-horned Rhinoceros of Kaziranga National Park. The park influences about 184 Fringe villages and 4 tea gardens. The inaccessibility of the area and proximity to the park has resulted in the region being prohibited of industry and other industrial activity, leading to crop farming and animal husbandry as the sole means of the people's livelihood for majority of the population. As of now, colossal amount of money is being invested from across the world and spent for research and development of the region in many spheres of life, but the rural fringe people of Kaziranga National park are yet to get the spillover benefit of those efforts. This has eventually resulted in villagers being economically poor, livestock with poor yields due to poor genetic quality, despite the factthat the area is bestowed with rich natural vegetation. Additionally, livestock sector in Kaziranga fringe areas has not been given much emphasis in terms of research and development, thus it is still very traditional and

poorly developed. Many research studies done in Kaziranga are restricted to general sociology, archaeological, geographical and ecological aspects. Scholars who are showing their interest in livestock sector of Kaziranga are mainly either very clinical in nature or specific in their scope. Very little study has been done on the livestock rearing preferences, purpose and degree of dependency on forest territories in the fringe villages of the park. Therefore in view of the above, the aforesaid study was conducted.

## MATERIALS AND METHODS

This investigation was undertaken to study the livestock rearing patterns among fringe villagers in 4 selected forest range areas of Kaziranga National Park, namely Agoratoli range, Kohora range, Bagori range and Burapahar (Ghurakati range). Basically, a purposive stratified random sampling technique was used for the study. From the 4 range areas, 5 villages namely Agoratoli village-I, Agoratoli village-II, Kohora village, Bagori village and Burapahar village were selected on random basis. Subsequently from each of the 5 villages, 20 numbers of livestock rearers were randomly selected making the sample size of 100. Data were personally collected by the researcher. Reliability of the interview schedule was worked out by conducting a pre-testing in the fringe village of Pobitora Wildlife Sanctuary by using test-retest method and was found out to be  $r = 0.89$ . Further content validity was seen while preparing the final schedule. After collection, they were arranged accordingly and data were analysed and inferences were drawn accordingly.

## RESULTS AND DISCUSSIONS

- **Livestock Mostly Preferred by the Respondents**

Table 1 revealed that fairly large majority (60 per cent in both Agoratoli-I and Bagori, 65 per cent in Agoratoli-II, 55 per cent in Burapahar and 50 per cent in Kohora) of the respondents had mostly preferred to rear indigenous cattle. In the pooled sample it was seen that 58 per cent of the respondents preferred mostly indigenous cattle followed by goat (19 per cent), pig (16 per cent), cross bred cattle (5 per cent) and poultry (2 per cent) to rear. Respondents preferring rearing of indigenous cattle cited the main reasons for it as their low income, less land holding and the responsibility to look after them along with other livestock. Moreover, the indigenous cattle could be reared on conventional feed and they could not afford for cross bred cattle as it required high investment in feeding and management. Similar findings were reported by Mukadasi & Niwagaba (2008), Misra *et. al.* (2009) and Das & Tripathi (2013) where the respondents mainly reared cattle. Meanwhile, the main reasons for goat being preferred to rear by the respondents were almost the same as above but some additional reasons cited were goats were easily manageable, could be transported and sold easily during the flood time and there were lesser loss due to it getting killed or dead than that of the cattle, although it was not widely reared due to menace of wild animals. Similar result was seen by Martin and Chehébar (2001). On the other hand the Kaziranga fringe villages being dominated by the tribal respondents witnessed the preference of the respondents for pig rearing. The other cogent reasons cited in its favour were scavenging feeding habit of pigs and convenience in selling the pig at any age due to its higher market demand. A similar finding was observed by Chucha (2004) who reported that the respondents preferred to rear pigs. However the respondents from higher economic status preferred mostly crossbred cattle to rear. Further it was also revealed that only 2 per cent of the total respondents preferred poultry to rear due to its inability to provide long time or durable benefits. Another reason for non-preference of poultry is the menace of wild cat and other wild carnivores.

**Table 1: Distribution of Respondents on the Basis of Livestock they Mostly Prefer to Rear**

Settings	Indigenous Cattle	Crossbred Cattle	Buffalo	Goat	Sheep	Pig	Poultry	Others
Agoratoli-I Village	12( <b>60</b> )	0(0)	0(0)	4(20)	0(0)	4(20)	0(0)	0(0)
Agoratoli-II Village	13( <b>65</b> )	2(10)	0(0)	2(10)	0(0)	2(10)	1(5)	0(0)
Kohora Village	10( <b>50</b> )	1 (5)	0(0)	3(15)	0(0)	6(30)	0(0)	0(0)
Bagori Village	12( <b>60</b> )	1(5)	0(0)	5(25)	0(0)	2(10)	0(0)	0(0)
Burapahar Village	11( <b>55</b> )	1(5)	0(0)	5(25)	0(0)	2(10)	1(5)	0(0)
Pooled	58( <b>58</b> )	5(5)	0(0)	19(19)	0(0)	16 (16)	2(2)	0(0)
<b>RANK</b>	<b>I</b>	<b>IV</b>	<b>-</b>	<b>II</b>	<b>-</b>	<b>III</b>	<b>V</b>	<b>-</b>

### • Purpose of Rearing

The data showed in Table 2 reflected that, the purpose of rearing livestock in all the five villages of Kaziranga were almost same. In the pooled sample it was found that, for all the respondents (100 per cent) livestock rearing is an integral part for their livelihood. However, large majority (76 per cent) of the respondents often reared livestock for their economic (commercial) purpose while 13 per cent of the respondents rarely reared livestock for the same purpose. It was also seen that large majority (79 per cent) of the respondents most often reared livestock for draught purpose. It was interesting to know that overwhelming majority (95 per cent) of the respondents often reared livestock traditionally while majority (45 per cent) of the respondents often reared livestock for other purpose (threshing, dung lapping etc.). This indicated that, animal husbandry in the fringe villages of Kaziranga still remains as a way of living. It was more traditional than commercial. Peasants had a strong emotional attachment with their stocks. Livestock rearing was interwoven with socio-economic and cultural lives of the people.

However primary purpose of cattle rearing was to perform the agricultural operation for their livelihood. Other livestock served the purpose of saving, meeting small cash needs and family nutritional requirement. These findings were more or less similar with that of Bujarbaruah *et al.* (1995) who revealed animal husbandry as the best alternative source of livelihood while Chattopadhyaya (1999) mentioned that in Sundarbans, livestock were used for livelihood, draught and for economic purposes. Anonymous (2002) reported that livestock were the important source of livelihood and played an important role in economy after agriculture meanwhile Devendra and Chantalakhana (2002) stated that livestock were valuable for agriculture and farm security, milk and beef, ploughing and dung production and for nutritional and household security. Das (2005) reported that primary purpose of cattle rearing was to perform the agricultural operation for livelihood whilst Borthakur (2006) observed that majority (55 per cent) of the respondents were rearing poultry for only single reason i.e., either for handsome income or secondary income or for employment opportunity. Similar study by Borgohain *et al.* (2014) in the Fringe Areas of Pobitora Wildlife Sanctuary of Assam stated that majority of the villager practiced agriculture and livestock farming as their primary occupation while maintaining an average animal herd of 1-25 animals. Again majority of them had medium level of income per month from livestock as well as other sources like agriculture, working as labourer etc.

**Table 2: Distribution of Respondents on the Basis of Purpose of Rearing Livestock**

Settings	Livelihood Purpose			
	Most Often	Often	Rarely	Never
Agoratoli-I Village	20 ( <b>100</b> )	0(0)	0(0)	0(0)
Agoratoli-II Village	20 ( <b>100</b> )	0(0)	0(0)	0(0)
Kohora Village	20 ( <b>100</b> )	0(0)	0(0)	0(0)
Bagori Village	20 ( <b>100</b> )	0(0)	0(0)	0(0)
Burapahar Village	20 ( <b>100</b> )	0(0)	0(0)	0(0)
Settings	<b>Economic Purpose (Commercial)</b>			
Agoratoli-I Village	3(15)	16( <b>80</b> )	1(5)	0(0)
Agoratoli-II Village	2(10)	12( <b>60</b> )	6(30)	0(0)
Kohora Village	3(15)	13( <b>65</b> )	4(20)	0(0)
Bagori Village	1(5)	18( <b>90</b> )	1(5)	0(0)
Burapahar Village	2(10)	17( <b>85</b> )	1(5)	0(0)
Settings	<b>Draught Purpose</b>			
Agoratoli-I Village	16( <b>80</b> )	2(10)	0(0)	2(10)
Agoratoli-II Village	16( <b>80</b> )	1(5)	0(0)	3(15)
Kohora Village	14( <b>70</b> )	0(0)	2(10)	4(20)
Bagori Village	17( <b>85</b> )	1(5)	0(0)	2(10)
Burapahar Village	16( <b>80</b> )	2(10)	1(5)	1(5)
Settings	<b>Traditional Purpose</b>			
Agoratoli-I Village	0(0)	18( <b>90</b> )	2(10)	0(0)
Agoratoli-II Village	0(0)	18( <b>90</b> )	2(10)	0(0)
Kohora Village	0(0)	19( <b>95</b> )	1(5)	0(0)
Bagori Village	0(0)	20( <b>100</b> )	0(0)	0(0)
Burapahar Village	0(0)	20( <b>100</b> )	0(0)	0(0)
Settings	<b>Other Purpose (Threshing, Dung Lapping etc.)</b>			
Agoratoli-I Village	0(0)	8( <b>40</b> )	5(25)	7 (35)
Agoratoli-II Village	0(0)	6(30)	6(30)	8( <b>40</b> )
Kohora Village	0(0)	15( <b>75</b> )	2(10)	3(15)
Bagori Village	0(0)	10( <b>50</b> )	5(25)	5(25)
Burapahar Village	0(0)	6(30)	0(0)	14( <b>70</b> )
Settings	<b>Pooled Value</b>			
Livelihood	100( <b>100</b> )	0(0)	0(0)	0 (0)
Economic Purpose	11(11)	76( <b>76</b> )	13(13)	0(0)
Draught Purpose	79( <b>79</b> )	6(6)	3(3)	12(12)
Traditional Purpose	0(0)	95( <b>95</b> )	5(5)	0(0)
Other Purpose	0(0)	45( <b>45</b> )	18(18)	37(37)

\*\*Figures in parentheses indicate percentage.

#### • Dependency on Kaziranga Forest Territory for Livestock Rearing

Table 3 further revealed that, majority (85 per cent, 60 per cent, 75 per cent and 65 per cent) of the respondents of Agoratoli-II, Kohora, Bagori and Burapahar respectively showed low dependency on forest territory for their livestock rearing, except in Agoratoli-I where majority (55 per cent) of the respondents were highly dependent on the forest territory. Additionally in Kohora 40 per cent of the respondents were highly dependent on the forest territory for their livestock rearing.

The possible reason for this high dependency may be due to the reason that most of the respondents' family in Agoratoli-I and Kohora were residing in their respective places since long time and most of the villages were very closed to the Kaziranga park boundaries. So, generally most of their livestock used to graze within the territory of the park. Fonjong

(2002) emphasized the dependency of the rural dwellers on natural resources, especially the forest which provided a means of livelihood.

Mean difference with an 'F' value 2.69 was found out to be significant at 5 per cent level of probability which indicated that respondents in the five fringe villages differed significantly in terms of dependency on the forest territory for livestock rearing. This might be attributed to the variation in distances of the villages from Kaziranga forest territory. Some were located near to it whereas, others were located little away. This variation in location led to the significant difference among the respondents in respect of the dependency on Kaziranga forest territory for livestock rearing.

**Table 3: Distribution of Respondents on the Basis of Dependency on KNP Forest Territory for Livestock Rearing**

Settings	Low	Medium	High	Mean	S.D.	Range	F Value
Agoratoli-I Village	9 (45)	0(0)	11 ( <b>55</b> )	1.65	0.67	1-3	2.69*
Agoratoli-II Village	17 ( <b>85</b> )	0(0)	3 (15)	1.15	0.37	1-2	
Kohora Village	12 ( <b>60</b> )	0 (0)	8 (40)	1.55	0.76	1-3	
Bagori Village	15 ( <b>75</b> )	0(0)	5 (25)	1.25	0.44	1-2	
Burapahar Village	13 ( <b>65</b> )	0(0)	7 (35)	1.35	0.49	1-2	
Pooled	66 ( <b>66</b> )	0(0)	34 (34)	1.39	0.58	1-3	

\*\*Figures in parentheses indicate percentage.

## CONCLUSIONS

From the study it could be concluded that the most preferred livestock reared by the villagers in the fringe villages of Kaziranga National Park was indigenous cattle followed by goat, pig and crossbred cattle and poultry. Indigenous cattle being the most reared livestock may due to various reason such low cost, low maintenance and resistance to diseases. Meanwhile, in case of purpose of rearing it was found that all the respondents considered livestock rearing as an integral part of livelihood, while 76% reared livestock for economic purpose, 79% for draught purpose, 95% reared it traditionally while 45% reared livestock for other purpose such as threshing, dung lapping. Furthermore, on the basis of dependency on Kaziranga National Park forest territory for livestock rearing, it was observed that except Agoratoli-I Village rest of the 4 villages (Agoratoli-II, Kohora, Bagori and Burapahar) showed low dependency on forest territory for their livestock rearing. Therefore appropriate extension strategies with the help of appropriate authorities along with necessary economic inputs, scientific training and veterinary aids could be incorporated for the development of the livestock in the area.

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